Statement of Work

Appendix C to Administrative Settlement Agreement and Order on Consent for Removal Site Evaluation and Removal Action

Offsite Operable Unit
Triple Site Superfund Site
Sunnyvale, California

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I. Introduction

This Statement of Work (SOW) is incorporated into the Administrative Settlement Agreement and Order on Consent for Removal Site Evaluation and Removal Action (Settlement) at the Offsite Operable Unit (OOU or the Site), an operable unit of the Triple Site, in Sunnyvale, California.

This SOW describes the Work required to complete a vapor intrusion (VI) removal site evaluation and removal action consisting of an evaluation of VI to indoor air and implementation of mitigation measures.

Respondent, Philips Semiconductors, Inc. (PSI), has conducted significant portions of the Work described in this SOW in the OOU pursuant to the now-terminated 2015 Settlement. This SOW provides for a continuation of work begun under the previous 2015 Settlement and its associated Work Plan. Respondents shall resume the previously-initiated VI assessment and mitigation activities following the Effective Date of the Settlement and in accordance with this SOW. This SOW also builds upon that work, including a new requirement for the development and implementation of a plan for supplemental work at structures in the OOU.

II. General Requirements

A. Technical Meetings

Upon EPA's request, Respondents shall participate in and present at periodic, generally once per month, technical meetings regarding planning and implementation of the Removal Site Evaluation and Removal Action. In addition to discussion of the technical aspects of the Work, topics shall include, but are not limited to:

1) Planned activities to be completed by EPA and Respondents in the near term; and

2) Any anticipated problems with implementation of the Settlement, including this SOW.

B. Progress Reports

During the implementation of this SOW, Progress Reports shall be submitted to EPA by the tenth (10^{th}) day of each month, including:

1) Description of the actions that have been taken to comply with this SOW and Settlement;

2) Description of significant developments since submittal of the last Progress Report;

3) Summary and tabulation of validated results of sampling, tests, and all other data obtained or generated by or on behalf of Respondents with respect to the Site and/or the implementation of the Settlement (unless this data is otherwise made available through online data sharing tools);

4) Description of the activities planned for the next month and associated schedules; and

5) Description of any actual or anticipated issue in complying with the requirements of the Settlement, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated issues or delays.

C. Community Involvement

Community involvement will be conducted in accordance with EPA guidance and the NCP.

If requested by EPA, Respondents shall participate in community involvement activities, which may include:

1) preparing information regarding the Work for dissemination to the public, with consideration given to appropriate media and/or Internet notification;

2) preparing and implementing building-specific communications to ensure building owners and occupants are adequately informed of and have an opportunity to discuss planned sampling activities, sampling results, and risk management measures, including data tables and figures as needed; and

3) preparing for public meetings or meetings with stakeholders that may be held or sponsored by EPA to explain activities at or relating to the Site.

Respondents' support of EPA's community involvement activities may include providing online access to final submissions and updates to final submissions.

Upon EPA's request, Respondents shall make all final deliverables available on a website that is accessible to the public. Upon EPA's request, Respondents shall establish a community information repository at or near the Site to house one copy of the administrative record.

Respondents have designated J. Wesley Hawthorne of Locus Technologies as the Community Involvement Coordinator ("CI Coordinator") for this project. Respondents may modify the CI Coordinator with written notice to EPA. Respondents may hire a contractor for this purpose, if necessary. Respondents' notice shall include the name, title, and qualifications of the Respondents' CI Coordinator. Respondents' CI Coordinator is responsible for providing support regarding EPA's community involvement activities, including coordinating with EPA's CI Coordinator regarding responses to the public's inquiries about the Site.

D. Off-Site Shipments

Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if Respondents comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

Respondents may ship waste material from the Site to an off-Site waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility's state and to EPA's Project Coordinator. This notice requirement shall not apply to any off-Site shipments when the total quantity of each such shipment will not exceed ten cubic yards.

The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents shall also notify the state environmental official referenced above and EPA's Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the written notice after the award of the contract for the Work and before the waste material is shipped.

Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if it complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the SOW. Wastes shipped off-Site to a laboratory for characterization, and Resource Conservation and Recovery Act (RCRA) hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

E. Certifications

Deliverables submitted to EPA pursuant to the SOW shall include the following certification signed by a responsible corporate official of Respondents or Respondents' Project Coordinator:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Document and Response to Comments Tracking System

When resubmitting any deliverable where EPA has made comments, Respondents shall prepare and submit a response to comment letter, submitted to EPA along with revised deliverables if appropriate. The response to comment letter shall address each comment and state where the comment has been addressed in the deliverable re-submittal. After the response to comment letter has been issued, if EPA provides additional comments, Respondents will insert those into the response to comment letter under each initial comment. These letters will accompany each deliverable resubmittal, and will be updated as needed to include the comments and responses to date on that deliverable. The response to comment letters shall remain as an attachment to the deliverable, but may be removed for copies of final deliverables that are intended to be made

immediately available to the public.

III. Removal Action Deliverables

A. Indoor Air Sampling and Analysis Removal Work Plan (Updated Removal Work Plan)

Respondents shall prepare and submit to EPA for approval an updated Indoor Air/VI Sampling and Analysis Removal Work Plan (Updated Removal Work Plan). The Updated Removal Work Plan shall cover all buildings in the OOU, including residential and school buildings, and shall include the items listed in (1) through (8), below.

Respondent, PSI, previously submitted, and EPA approved, a document entitled, *Work Plan, Additional Vapor Intrusion Evaluation, The Companies Offsite Operable Unit, Sunnyvale, California, January 7, 2015* (VI Work Plan), followed by a document entitled, *Work Plan Addendum, Addendum 1 to Additional Vapor Intrusion Evaluation Work Plan: Supplemental Indoor Air Investigation to Address Spatial Data Gaps at Three Facilities, January 8, 2018* (School VI Addendum). Generally, many of the requirements for the Updated Removal Work Plan are already addressed in the VI Work Plan and School VI Addendum and may be resubmitted as currently approved by EPA as part of the Updated Removal Work Plan. The following sections are new Work areas that shall also be addressed in the Updated Removal Work Plan: (1) Section III.A.3 on Implementation of Mitigation Measures for Structures in the OOU to Address Unacceptable TCE Vapor Intrusion to Indoor Air; (2) Section III.B Draft Building-Specific Sampling Plan Addenda; (3) Section III.E Reports on Building-Specific Evaluation of Indoor Air and Mitigation Measures; and (4) Section III.F Post-Removal Site Controls (PRSC).

1) The Updated Removal Work Plan shall include:

a) Procedures for coordinating with EPA to define the specific objectives and plan the Removal Action scope;

b) The Removal Action objectives and overall project scope; and

c) Frequency of meetings (e.g., milestone based) with EPA to discuss key project planning decisions and special concerns associated with the OOU.

2) The Updated Removal Work Plan shall include procedures for maintaining a Health and Safety Plan (HASP), in accordance with the schedule set forth in this SOW.

On June 10, 2016 Locus Technologies, on behalf of Respondent, PSI, submitted a plan entitled, "Health and Safety Plan, Field Work Activities for Operation and Maintenance" (Plan) to EPA for review and comment for the performance of on-site work under the now-terminated 2015 Settlement. Respondents shall evaluate whether the Plan must be updated to cover the additional work required by this SOW and Settlement and shall, as appropriate, submit this updated Plan to EPA. Respondents shall implement the Plan or updated version thereof, as appropriate, during the implementation of the Removal Site Evaluation (RSE) and Removal Action. This Plan shall be prepared with all applicable health and safety regulations, including Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910.

3) ***The Updated Removal Work Plan shall include criteria and procedures for implementation of mitigation measures for structures in the OOU to address unacceptable TCE vapor intrusion to indoor air, including:***

a) Development of a Decision Framework for residences based upon the multiple lines-of-evidence collected to date for the Triple Site, to determine whether preemptive mitigation is warranted. For the purpose of the evaluations below, groundwater concentrations for each property are being derived using the latest "A" aquifer groundwater contours, as presented in the Respondents' annual groundwater monitoring reports. Pathway samples are defined as samples collected from non-occupied spaces that could potentially indicate a preferential pathway through which vapor intrusion may be occurring. Examples of pathway samples may include, but are not limited to, crawlspaces, utility conduits, and sewer drains. Mitigation systems will be offered for structures meeting at least one of the following conditions:

1. TCE indoor air concentrations related to vapor intrusion (with or without active ventilation) exceed 2.0 micrograms per cubic meter ($\mu g/m^3$);

2. Pathway concentrations related to vapor intrusion exceed 2.0 $\mu g/m^3$;

3. Indoor air concentrations related to vapor intrusion exceed 1.0 $\mu g/m^3$ and groundwater TCE concentrations underneath the structure exceed 100 micrograms per liter ($\mu g/L$);

4. Indoor air concentrations related to vapor intrusion exceed 0.48 $\mu g/m^3$ and pathway or indoor air ventilation-off concentrations (if available) exceed 1.0 $\mu g/m^3$ and groundwater TCE concentrations underneath the structure exceed 100 $\mu g/L$;

5. Indoor air concentrations related to vapor intrusion exceed 0.48 $\mu g/m^3$ and subslab concentrations exceed 6.0 $\mu g/m^3$ and groundwater TCE concentrations underneath the structure exceed 100 $\mu g/L$;

6. If indoor air or pathway sample data are not available and the property is within 100 feet of a similarly-constructed property where vapor intrusion has caused indoor air (with or without active ventilation) or pathway samples to exceed 2.0 $\mu g/m^3$; or

7. If indoor air or pathway sample data are not available and groundwater TCE concentrations underneath the structure exceed 100 $\mu g/L$ and the property includes a basement, crawlspace, elevator shaft, or other similar feature that is five feet or more below grade.

b) The Decision Framework should take into account, but not be limited in its consideration of, the following:

1. All available and pertinent information related to the VI pathway, including pollutant distribution in groundwater, soil, soil vapor, sub-slab soil vapor, indoor, pathway and outdoor air; and

2. Contaminant-specific groundwater contours.

c) Making offers of preemptive mitigation to property owners of buildings where the established criteria of the Decision Framework (see Section III.A.(3.a, above) are met.

These offers would be submitted to the selected property owners by letter, and Respondents will take reasonable efforts to obtain a response from the property owner including at a minimum:

1. Mailed transmittal of mitigation offer together with any appropriate translations;

2. One mailed postcard, together with any appropriate translations, summarizing the mitigation offer;

3. A minimum of one phone call to the owner to request discussion; and

4. One door-to-door visit to the property where the informational materials are left at the residence in a door hanger if no one is at home.

These communication efforts will be documented for each property. If a response from the property owner is not received within 90 days from transmittal of the mitigation plan or if the property owner declines the offer, then no further communication or action would be undertaken for that property unless the following occur: (1) the property owner reconsiders and grants access; or (2) ownership changes. Additionally, if the property owner does not respond after the above-listed efforts, the aforementioned mitigation offer will be mailed once annually to the nonresponsive property owners. If site-specific circumstances warrant, modifications to this approach will be discussed at the next technical meeting per Section II(A), above.

d) Development of a community relations approach, per Section II.B, above, including:

1. Development of a generic template for an offer of preemptive mitigation to property owners and tenants;

2. Plans for meetings with owners, occupants, and other stakeholders; and

3. Preparation and transmittal to property owners of written access forms for mitigation system installation and maintenance.

e) Development of building-specific preemptive mitigation plans where offers of

preemptive mitigation are accepted. Preemptive mitigation plans may include passive subslab depressurization systems constructed with the ability to enable active ventilation if warranted by further sampling.

4) ***The Updated Removal Work Plan shall reference the following documents previously submitted by Respondent, PSI:***

a) Work Plan, Additional Vapor Intrusion Evaluation, The Companies Offsite Operable Unit, Sunnyvale, California, January 7, 2015, includes Quality Assurance Project Plan as Appendix H (approved by EPA);

b) Work Plan Addendum, Addendum 1 to Additional Vapor Intrusion Evaluation Work Plan; Supplemental Indoor Air Investigation to Address Spatial Data Gaps at Three Facilities, January 8, 2018 (approved by EPA); and

c) Health and Safety Plan, Field Work Activities for Operation and Maintenance, June 10, 2016 (reviewed by EPA);

5) ***The Updated Removal Work Plan shall be consistent with the previously approved procedures for implementation of building surveys at each building, including:***

a) Identification of all building features, including physical features such as foundation type (e.g., basement, slab-on-grade, crawlspace or earthen floor), foundation condition, building size, ceiling heights, building use zones (e.g., school, residential) and building age, to determine whether there are building features that could influence VI;

b) Determination of the nature of building occupancy in a Building Occupancy Summary, or its equivalent, including general building use (e.g., daycare, school, residential), number of occupants (e.g., number of students, residents, employees, visitors), and days/hours of occupancy by all occupants;

c) Identification of any subsurface structures (e.g., elevator shafts, utility conduits/tunnels, sewer lines, vaults, tanks, and sumps);

d) Identification of potential preferential pathways for soil vapor to enter indoor air (e.g., areas/rooms where utilities penetrate a slab foundation, piping and utility corridors, foundation gaps, construction joints and floor drains, dry water traps, or deteriorated wax seals in toilets);

e) Assessments of building ventilation in a Ventilation Assessment Report, including:

1. Evaluation of passive ventilation, including windows, doors, and any large openings that are periodically used (e.g., roll-up doors);

2. Identification of areas that are not ventilated where vapors may enter the building and accumulate; and

3. Evaluation of the heating, ventilation and air conditioning (HVAC) system(s) and general operation, including number of distinct ventilation zones, ventilation cycles (daily, weekly, and seasonally), make-up air, and temperature settings;

f) Conducting a Chemical Inventory of volatile organic compounds (VOCs) containing products inside the building, as appropriate, with a specific focus on products containing the Site contaminants of concern (COCs);

g) Development of sampling strategies if products containing Site COCs are identified, including communications with building owners and occupants to identify and remove confounding indoor sources of Site COCs, as appropriate, and plans for managing indoor sources to avoid sample interference;

h) Evaluation of the specific chemical usage activities that take place within the building, as appropriate, and description of them in a Building Activities Summary Report or its equivalent, in order to target sampling locations away from the chemical usage areas because indoor air emissions in these areas could obscure VI pathways and/or interfere with analytical data;

i) Identification and evaluation of data gaps; and

j) Identification and implementation of VI evaluation protocols (see the following section) to address identified data gaps.

6) The Updated Removal Work Plan shall be consistent with the previously submitted Sampling and Analysis Plan (SAP), which was approved by EPA pursuant to the 2015 AOC, which included:

Submittal to EPA of Building-Specific Sampling Plan Addenda (see Section III(B), below), including:

a) Appropriate indoor air sampling locations targeting areas/rooms with potential preferential pathways; breathing zone sampling locations in areas generally representative of typical exposure; pathway air sampling locations (such as crawlspaces and basements), sub-slab air sampling locations, and exterior soil vapor sampling locations; and ambient outdoor air sampling locations to represent the potential contribution of outdoor contaminants to indoor air concentrations;

b) Methodology (e.g., passive longer-term samples, grab samples, real-time field screening), Data Quality Objectives (DQOs), and indicators;

c) Duration of sample collection (e.g., grab, 8-hour, 24-hour, days to weeks), conditions for sampling (*e.g.*, ventilation when sampling occupied or unoccupied buildings), equipment to be used in sampling (e.g., evacuated canisters, passive absorption devices) as appropriate to the VI potential of concern;

d) Sampling rounds with and without ventilation operating (e.g., both the ventilation and cooling functions of the HVAC off, or with manual outdoor air intakes open and closed) at buildings with significant ventilation (including HVAC systems);

e) HVAC-off sampling with a sampling duration of a minimum of 36 hours, following shut-down of the building ventilation systems (no outdoor air intakes into the building) and continuing while HVAC systems remain off;

f) Providing adequate notice to building management/facilities departments and occupants about the testing schedule and timeframe for ventilation system shut-down given the greater potential for elevated indoor air contaminant concentrations while building ventilation is turned off;

g) Removal of potential indoor sources of Site COCs that could interfere with analysis at least 24 hours prior to collection of indoor air samples;

h) Surveying each building on the day of sampling to identify current conditions, including the ventilation system status (if present), occupancy, chemical presences and usage, and any other conditions that may impact the representativeness of the samples; and

i) Multiple indoor air sampling events, including during the winter heating season (generally November through February in the Bay Area) for residential-type buildings, targeting temperatures lower than 55 degrees Fahrenheit (F) as provided in the previous Work Plan, including at least two winter heating season sampling events for post-mitigation effectiveness monitoring to:

    1. Address the concern that where seasonal variation has been observed, the potential for VI is generally higher during colder periods of the year in winter when indoor temperatures are at least 10-15 degrees F higher than outdoor temperatures; and

    2. Assist in assessing the variability in ambient outdoor air TCE concentrations during indoor air sampling periods and evaluate outdoor air TCE contributions to indoor air TCE levels detected.

The following Work areas related to the SAP shall also be addressed in the Updated Removal Work Plan:

a) Procedures to ensure that staff implementing the SAP are familiar with the Updated Removal Work Plan, updated SAP and associated procedures, with appropriate job training and evaluation conducted for field staff; and

b) Confirmation that document retention and archival times conform with Superfund record retention schedules.

7) ***The Updated Removal Work Plan shall present and discuss what mitigation measures and other response activities will be considered to address unacceptable TCE vapor intrusion into indoor air, including:***

a) Increasing outdoor air infiltration and instituting positive pressure ventilation;

b) Treating indoor air (for example, with carbon filtration or indoor air purifiers);

c) Investigating and sealing potential preferential pathways and conduits where vapors may be entering the building;

d) Installing passive vapor barriers and venting systems;

e) Installing, operating and maintaining sub-slab or sub-membrane depressurization systems (similar to radon mitigation systems);

f) Installing, operating and maintaining soil vapor extraction systems;

g) Temporarily relocating occupants, if necessary;

h) Conducting confirmatory sampling, including monitoring and confirmatory sampling to verify effectiveness of mitigation measures;

i) Repairing response-related damages caused by Respondents, if any; and

j) Developing and submitting to EPA for approval plans for Post-Removal Site Controls (PRSC), including Operations and Maintenance (O&M) plans, monitoring of ventilation-based measures at appropriate intervals, deed notices, recording packages, tracking of property owners and ownership turnover, or other types of institutional controls.

B. Draft Building-Specific Sampling Plan Addenda

For each building sampled, prior to the building field visit, Respondents shall prepare and submit to EPA for approval a Draft Building-Specific Sampling Plan Addendum (Draft Addendum) that includes publicly available information and information collected to date. If publicly available or already collected, the Draft Addendum shall include: the Building Occupancy Summary (see Section III(A)(5)(b)), Ventilation Assessment (see Section III(A)(5)(e)), Chemical Inventory (see Section III(A)(5)(f)), Building Activities Summary (see Section III(A)(5)(h)), and specifying specific sampling locations based upon any previously conducted building surveys and multiple lines-of-evidence collected at the Triple Site, and short-term and long-term response action levels and response timeframes. To the extent that the Draft Addendum does not include a complete Building Occupancy Summary, Ventilation Assessment, Chemical Inventory, Building Activities Summary and specific sampling locations, the final addendum shall address these items and be submitted as part of the Building-Specific Evaluation and Mitigation Report.

C. Indoor Air Sample Collection

Upon approval of each Draft Addendum, or as otherwise approved by EPA, Respondents shall commence indoor sample collection activities at the specific building in accordance with the approved Updated Removal Work Plan and Draft Addendum. Field activities shall include those tasks necessary to finalize the Draft Addendum, including the Building Occupancy Summary, Ventilation Assessment, Chemical Inventory, Building Activities Summary and building-specific sampling plan, as appropriate.

D. Implementation of Risk Management Activities

Based on the results of building specific sampling and as required by EPA, Respondents shall implement building- and area-specific Risk Management Activities. Risk Management Activities may include:

1) Implementation (within weeks to months pending property owner consent) of mitigation activities, including preemptive or precautionary mitigation, in the event of:

   a. Indication that preemptive mitigation is warranted based on the previously developed Decision Framework in Section III(A)(3)(a), above; or

   b. finding a confirmed VI occurrence of TCE within the Superfund Health Protective Cancer Risk Range[1] posing a long-term health threat of 0.48 – 2 micrograms per cubic meter ($\mu g/m^3$) for residential exposures and 3 – 9 $\mu g/m^3$ for 8-hour/day commercial/industrial exposures. Development and implementation of a long-term monitoring plan may be an appropriate response for these properties;[2]

2) Immediate implementation (within days to weeks pending property owner consent) of interim or permanent mitigation activities in the event of finding a confirmed VI occurrence of TCE posing a potential short-term health threat (evidenced by the measurement of indoor air concentrations above a Hazard Quotient [HQ] of 1 or 9 $\mu g/m^3$ for an 8-hour commercial workday, 7 $\mu g/m^3$ for a 10-hour commercial workday, or 2 $\mu g/m^3$ for a residence or classroom) while long-term remedial options are considered, with the effectiveness of mitigation measures (defined as a reduction of the TCE indoor air concentrations to below the HQ=1 level) confirmed promptly, or within a few weeks; and

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1 For cancer causing chemicals, the Superfund Health Protective Risk Range encompasses the range of concentrations EPA considers to be protective, from 1 to 100 in a million increased lifetime cancer risk. The level that falls into the most protective end of the risk range – 1 in a million increased lifetime risk – is what is used as the screening level for any particular chemical. After identifying the health protective levels, EPA then compares measured values to the lowest, most health-protective, end of the range. Although levels of exposure anywhere within the range may be acceptable, EPA's goal for indoor air exposures to Superfund site-related chemicals is to keep exposures as low as reasonably possible within the Superfund Health Protective Risk Range.

2 U.S. EPA Region 9 November 2017 Regional Screening Levels: http://www.epa.gov/region9/superfund/prg Accessed June 2018.

3) Immediate implementation (within days pending property owner consent) of interim or permanent mitigation activities in the event of finding a confirmed VI occurrence of TCE posing a potential short-term health threat above an HQ of 3 (27 $\mu g/m^3$ for an 8-hour commercial workday, 21 $\mu g/m^3$ for a 10-hour commercial workday or 6 $\mu g/m^3$ for a residence or classroom) while long-term remedial options are considered, with the effectiveness of mitigation measures confirmed within a few days of installation.

E. Reports on Building-Specific Evaluation of Indoor Air and Mitigation Measures

For each building where VI sampling or other assessment activities were conducted, or where Risk Management Activities were implemented or planned, Respondents shall prepare and submit to EPA for approval, a Report on Building-Specific Evaluation of Indoor Air and Mitigation Measures. This report shall be submitted to EPA on a building-specific basis and following receipt of EPA's approval of completion of each Building-Specific Indoor Air Sample Collection Effort or completion of immediate or interim mitigation measures. The report shall include the final Building-Specific Sampling Plan Addendum, if not previously submitted to EPA, an evaluation of the data collected for that building, description of any mitigation measures implemented, recommendation of next steps, including any additional mitigation measures, descriptions of plans for additional monitoring (if any) and verification of performance of mitigation measures (if applicable), and plans for PRSC (if applicable). EPA plans to transmit these reports to each property owner, together with a letter communicating sampling results, mitigation measures already taken and any necessary next steps. The report shall include the following:

1) Evaluation of data within the context of the multiple-lines-of-evidence approach, taking into consideration contaminant concentrations in outdoor air, indoor air, below occupied areas (including crawlspace air, basement air and pathway air), in subsurface soil vapor (including any evidence of a concentration gradient), and groundwater;

2) Data validation to ensure acceptable quality of the data, defensibility of the data, and verification that chain-of-custody requirements have been met;

3) Review of data for usability for its intended purpose, and preparation of a report of data validation and usability to EPA (or as a component of the Report on Evaluation of Indoor Air);

4) Comparison of measured indoor air contaminant concentration sampling results to long-term and, where appropriate, short-term health-based screening levels;

5) Screening Site COCs, other than TCE short-term impacts, based on EPA's Regional Screening Levels, and/or other appropriate screening levels;

6) Consideration of possible contribution from potential indoor sources (e.g., consumer products, disinfection byproducts off-gassing from tapwater) and outdoor sources;

7) Evaluation of indoor air data in consideration of local, regional and historical ambient outdoor air data;

8) Evaluation of data in light of the information gathered regarding the specific building in which it was obtained;

9) Where data evaluation indicates that VI is occurring in a particular building above levels of health concern, determination of planned mitigation measures based on the levels found and corresponding risks to health, the building occupant(s), and other building particulars;

10) Development and implementation of mitigation measures (if applicable);

11) Building-specific communications plan to ensure building owners and occupants are adequately informed of sampling results and planned risk management measures; and

12) Plans for PRSCs (if applicable).

F. Post-Removal Site Controls

For each building where Risk Management Measures were implemented, Respondents shall prepare and submit to EPA for approval a Building-Specific O&M Plan. Respondent, PSI, previously submitted, and EPA approved, O&M plans for certain buildings. O&M plans shall continue to include the following:

1) Plans for post-mitigation indoor, outdoor and pathway air sampling, including post-mitigation sampling events during the winter heating season;

2) Procedures for maintenance of mitigation systems;

3) Frequency of inspections;

4) Required City building/safety permits or demonstration that required building/safety permit applications have been submitted with a placeholder Appendix for the final building/safety permit;

5) Occupant Information Sheets; and

6) As-built drawings.

Following EPA approval of completion of all site-wide mitigation measures and following EPA approval of all Building-Specific O&M Plans in the OOU, Respondents shall prepare and submit to EPA for approval a plan for additional PRSCs, which may include:

1) Recorded agreements to help provide notice to current and future owners and occupants, EPA and Respondents when there is a change in building ownership or configuration;

2) Recorded agreements, providing EPA and Respondents with the necessary access to maintain, operate, and remove, when appropriate, the VI remedy;

3) A system for tracking and providing notice to EPA and Respondents of changes in ownership to properties in the OOU; and/or

4) Maintaining a map to help ensure that stakeholders interested in properties in the OOU are informed of the appropriate construction specifications and need for consultation with EPA when making inquiries with the City of Sunnyvale.

Respondents shall include implementation schedules for specific PRSCs in the PRSC plan.

Upon EPA approval, Respondents shall either conduct PRSC activities, or obtain a written commitment from a different entity for conduct of such activities, until such time as EPA determines that no further PRSC is necessary. Respondents' completion of PRSC activities will be contingent on approval from the property owner and other third-party stakeholders (if applicable). Lack of approval from these persons or entities would limit Respondents' obligations to complete PRSC activities. Respondents shall provide EPA with documentation of all PRSC commitments from a different entity.

G. Final Removal Action Report

Respondents shall prepare and submit to EPA for approval a Final Removal Action Report, which summarizes the Work conducted pursuant to this SOW. This report should present in both tabular and graphical form the data collected during the performance of the Work, in a manner which protects personally identifiable information for public release.

IV. Implementation

Respondents shall implement all approved deliverables in accordance with the approved schedules.

V. Schedules

All deliverables and tasks required under this SOW must be submitted or completed by the deadlines or within the time durations listed in the Schedules set forth below. Respondents may submit proposed revised Schedules for EPA approval. Upon EPA's approval, the revised Schedules supersede the Schedules set forth below, and any previously-approved Schedules.

DELIVERABLE	DUE DATE (calendar days)
Participation in and Presentation at Technical Meetings	Upon request by EPA with minimum thirty (30) days' notice to Respondents.

Participation in and Content Development for Community Involvement Activities	Upon request by EPA with minimum thirty (30) days' notice to Respondents.
Designation of Community Involvement Coordinator	Within fifteen (15) days following a request by EPA
Written notice of off-Site waste shipments	Prior to shipping waste material from the Site in excess of ten (10) cubic yards to an off-Site waste management facility
Scoping Meeting	If necessary, upon mutually-agreed upon date between EPA and Respondents after the Effective Date
Updated Removal Work Plan	Within forty-five (45) days after the Effective Date
If necessary, updated Health and Safety Plan	Within forty-five (45) days after the Effective Date
If necessary, updated Sampling and Analysis Plan - Updated Field Sampling Plan - Updated Quality Assurance Project Plan	Within sixty (60) days after the Effective Date
Progress Reports	Beginning seven (7) days after EPA's approval of the Updated Removal Work Plan and monthly thereafter, submitted to EPA by the tenth (10^{th}) day of the following month
Updated Removal Work Plan Implementation	Commencement within twenty-one (21) days after EPA's approval of the Removal Work Plan
Draft Building-Specific VI Sampling Plan Addenda (if submitted separately from the Building-Specific Evaluation Report)	As access is granted by property owners, within thirty (30) days after completion of Building-Specific Removal Work Plan Implementation
Building-Specific Indoor Air Sample Collection Implementation	Commencement within twenty-one (21) days after EPA's approval of each Building-Specific VI Sampling Plan Addendum, or later if necessary because of property owner/tenant availability. If delay is due to property owner/tenant availability, then commencement may begin within forty-five (45) days with notice to EPA. If more than forty-five (45) days, Respondents will notify EPA of the cause for delayed sampling and submit a proposal for approval for next steps to implement the Building-Specific Indoor Air Sample Collection.
Immediate or Short-Term Mitigation or Other Interim Response Activities, as appropriate	In accordance with the schedule in the Updated Removal Work Plan or as otherwise approved by EPA
Implementation of initial or additional Building-Specific Risk Management and Mitigation Measures and O&M Plans	In accordance with the schedule in the Updated Removal Work Plan, or as otherwise approved by EPA
Reports on Building-Specific Evaluation of Indoor Air and Mitigation Measures and O&M Plans conducted	Within forty-five (45) after EPA's approval of completion of each Building-Specific Indoor Air Sample Collection effort or completion of mitigation response measures
Plans for additional PRSCs	Within thirty (30) days after EPA's approval of all site-wide Reports on Building-Specific Evaluation of Indoor Air and Mitigation Measures and O&M Plans

Implementation of additional PRSCs	Commencement within thirty (30) days after EPA's approval of Respondents' plans for additional PRSCs
Final Removal Action Report	Within ninety (90) days after EPA's approval of completion of putting PRSCs in place

VI. References and Guidance Documents

The following list consists of many of the regulations and guidance documents that may apply to the Work.

1. American National Standards Practices for Respiratory Protection. American National Standards Institute Z88.2-1980, March 11, 1981.
2. ARCS Construction Contract Modification Procedures, September 1989, OERR Directive 9355.5-01/FS.
3. CERCLA Compliance with Other Laws Manual, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (DRAFT), OSWER Directive No. 9234.1-01 and -02.
4. Community Relations in Superfund - A Handbook, U.S. EPA, Office of Emergency and Remedial Response, January 1992, OSWER Directive No. 9230.0-3C.
5. A Compendium of Superfund Field Operations Methods, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.
6. Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, U.S. EPA, Office of Solid Waste and Emergency Response, October 1986, OSWER Directive No. 9472.003.
7. Contractor Requirements for the Control and Security of RCRA Confidential Business Information, March 1984.
8. Data Quality Objectives for Remedial Response Activities, U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.
9. Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV, Environmental Services Division, April 1, 1986 (revised periodically).
10. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised November 1984.
11. Federal Acquisition Regulation, Washington, DC: U.S. Government Printing Office (revised periodically).
12. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive NO. 9355.3-01.
13. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potential Responsible Parties, U.S. EPA Office of Emergency and Remedial Response, EPA/540/G-90/001, April 1990.
14. Guidance on Expediting Remedial Design and Remedial Actions, EPA/540/G-90/006, August 1990.
15. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites, U.S. EPA Office of Emergency and Remedial Response (DRAFT), OSWER Directive No. 9283.1-2.

16. Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, Prepublication version.
17. Guide to Management of Investigation-Derived Wastes, U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.
18. Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.
19. Health and Safety Requirements of Employees Employed in Field Activities, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1982, EPA Order No. 1440.2.
20. Interim Guidance on Compliance with Applicable of Relevant and Appropriate Requirements, U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
21. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
22. Methods for Evaluating the Attainment of Cleanup Standards: Vol. 1, Soils and Solid Media, February 1989, EPA 23/02-89-042; vol. 2, Ground Water (Jul 1992).
23. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.
24. NIOSH Manual of Analytical Methods, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.
25. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.
26. Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, February 19, 1992, OSWER Directive 9355.7-03.
27. Procedure for Planning and Implementing Off-Site Response Actions, Federal Register, Volume 50, Number 214, November 1985, pages 45933-45937.
28. Procedures for Completion and Deletion of NPL Sites, U.S. EPA, Office of Emergency and Remedial Response, April 1989, OSWER Directive No. 9320.2-3A.
29. Quality in the Constructed Project: A Guideline for Owners, Designers and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment, American Society of Civil Engineers, May 1988.
30. Remedial Design and Remedial Action Handbook, U.S. EPA, Office of Emergency and Remedial Response, June 1995, OSWER Directive No. 9355.5-22.
31. Revision of Policy Regarding Superfund Project Assignments, OSWER Directive No. 9242.3-08, December 10, 1991. [Guidance, p. 2-2]
32. Scoping the Remedial Design (Fact Sheet), February 1995, OSWER Publ. 9355-5-21 FS.
33. Standard Operating Safety Guides, U.S. EPA, Office of Emergency and Remedial Response, November 1984.
34. Standards for the Construction Industry, Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.
35. Standards for General Industry, Code of Federal Regulations, Title 29, Part 1910, Occupational Health and Safety Administration.
36. Structure and Components of 5-Year Reviews, OSWER Directive No. 9355.7-02, May 23, 1991. [Guidance, p. 3-5]
37. Superfund Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, April 1990, EPA/540/G-90/001.
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45. Value Engineering (Fact Sheet), U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9355.5-03FS, May 1990.
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